Abstract of the Invention

A fused silica substrate is processed to a thickness that allows it to be easily flexed. An opening is etched in the substrate. A die having a patterned topside is processed to the thickness of the substrate by lapping the die. The thinned die is positioned within the opening of the substrate. Non-conducting glass is then spun on top and backside surfaces of the die/substrate combination and is allowed to flow between the surfaces of the die and substrate. The spun-on-glass and oxide lying over bonding pads of the die are then removed. Conductive traces are constructed to provide electrical connection from the embedded die to the periphery of the enclosure for external electrical interconnect. Since spacing is not dictated by traditional bonding pad sizes and wire bonding requirements, it is possible to provide a greater number of connectivity lines per chip side. For enhanced heat dissipation, the backside of the die may be stripped of glass and replaced with a metal heat sink. The flexural properties of the thin fused silica (or equivalent) permit the enclosure to be arched and inserted into a printed circuit board without solder. Multi-sided enclosures and even circular enclosures are envisioned to be able to be mounted in this manner. As a final processing step, a metal such as copper may be applied to the aluminum traces at the outer edges of the enclosure where the enclosure's leads will be brought in conductive contact with "outside" connectors.